

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year)

05 -10- 2004

Applicant's or agent's file reference
E35252 JFL/J

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/NO 2004/000178

International filing date (day/month/year)

17.06.2004

Priority date (day/month/year)

19.06.2003

International Patent Classification (IPC) or both national classification and IPC

B02C 23/04, B02C 18/24, F16D 7/00

Applicant

Tomra Systems ASA et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☒ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/SE

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Form PCT/ISA/237 (cover sheet) (January 2004)

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/NO 2004/000178

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | | |
|-------------------------------|--------|--------------------------------|-----|
| Novelty (N) | Claims | <u>1-30</u> | YES |
| | Claims | <u></u> | NO |
| Inventive step (IS) | Claims | <u>15, 18, 19, 21, 22</u> | YES |
| | Claims | <u>1-14, 16, 17, 20, 23-30</u> | NO |
| Industrial applicability (IA) | Claims | <u>1-30</u> | YES |
| | Claims | <u></u> | NO |

2. Citations and explanations:

Documents cited in the International Search Report:

D1: US 5622034
D2: SU 1080865
D3: SU 462609
D4: JP 2001269032
D5: JP 11197978
D6: GB 238350
D7: GB 663460
D8: US 2828086

A problem to be solved with the present invention is rotor jamming in disintegration apparatuses.

D1 (see abstract; figure 4; column 4, line 60 - column 6, line 48; claim 1) is considered to be the most relevant prior art. D1 describes a disintegration apparatus comprising a functional unit (i.e. a rotatable knife unit) driven by a motor via a mechanical power transmission device. A part of the power transmission device is a flywheel (43). The functional unit in D1 has a knife blade (14, 15) which rotates in a frame (11). The mechanical power transmission device comprises a mechanism in the form of a clutch (30) which provides sudden power engagement with the functional unit. The mechanism also comprises spring-loaded blocks. If overloading occurs the clutch makes the flywheel slip and thus limits the torque.

Claims 1 and 20

What differs between the invention according to claims 1

.../...

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

and 20, and D1, is that the mechanism also comprises a coupling. In D1 it is not clear if the power transmission device comprises a coupling (see figure 2). However, the clutch is, via the flywheel, in sudden power engagement with the knife unit. Further, the same problem is solved in D1 as in the application, i.e. the problems with jamming. Therefore, the above mentioned difference does not seem to imply that the apparatus claimed in claims 1 and 20 differs substantially from D1.

A further difference between the invention according to claim 1 and D1 is that the knife blade is designed to move along a chamber wall wherein a part of the wall has perforations. In D1 only a frame, in which the knife blade rotates, is described. However, disintegrating machines comprising a chamber with perforations are widely known to a person skilled in the art. Therefore, this difference does not involve any inventive work.

Thus, the invention according to claims 1 and 20 lacks inventive step.

Claim 29

The apparatus in D1 disintegrates articles of biologically degradable material (canes).

Therefore, the invention according to claim 29 lacks inventive step. Note also that it does not involve an inventive step to use the claimed apparatus to disintegrate any of the other groups of material mentioned in claim 29.

Claims 2, 4, 6-11, 13, 14, 16, 17, 23-28 and 30

What is claimed in claims 2, 4, 6-11, 13, 14, 16, 17, 23-28 and 30 is considered to be obvious for a person skilled in the art with the knowledge of D1 and does not involve any inventive work.

Claims 3, 5 and 12

What is claimed in claims 3, 5 and 12 is known per se from D1. Thus, the invention according to claims 3, 5 and 12 lacks inventive step.

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawing or on the question whether the claim are fully supported by the description, are made:

Claim 29

It is not clear and concise (see Article 6 PCT) in claim 29 if the apparatus should be able to disintegrate material from all of the groups a-d or from only one of the groups: i.e. should the claim be interpreted as "a or b or c or d" or "a and b and c and d"? The claim has been interpreted as "a or b or c or d".